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Cooperatives In U.S. Farm Trade



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This week's cover:

Cooperatives have had a leading role in exporting American farm products. Above, grain from co-op elevator goes into a hopper car. Below, co-op representative promotes U.S. poultry in Japan. See story this page.

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A SALUTE TO Cooperatives in U.S. Agricultural Trade

Grain on the Missouri: At a co-op elevator in Kansas City, the bargeload of grain below prepares to begin its long journey into export. Exit point is an elevator in New Orleans; destinations, cities throughout the world.



Each October, this nation observes Cooperative Month, honoring—among others—the 8,300 marketing and supply cooperatives that help keep the U.S. farmer in business. Today, over a fourth of U.S. farm output is sold through these cooperatives, including a substantial share of the \$6.7 billion in farm products exported yearly.

Cooperatives penetrate every phase of U.S. farm trade—with functions varying from marketing of beans overseas to buying grass seed in Europe and twine in Mexico for use on farms at home. And they play an equally important role in the trade of our customers and competitors. So great is the cooperative movement in Scandinavia that these organizations often administer government farm programs. In Africa and Latin America, cooperatives are giving farmers the chance they would otherwise not have. And in the Orient, some cooperatives come giant-sized, like ZENKOREN—Japan's and the world's largest cooperative and the purchaser this year of a record quantity of U.S. grain sorghum.

Big exporting cooperatives

At home, many agricultural cooperatives participate in the export business, with several selling up to 50 percent of their volume abroad. Twelve of these have earned Presidential "E" Awards for their contributions toward improving the U.S. balance of payments.

One winner of the "E" Award is Caladino Farm Seeds, Inc., Willows, Calif., a cooperative that produces, processes, and markets Ladino clover, alfalfa, trefoil, Sudangrass, vetch, safflower, strawberry clover, and other seeds. In addition, it imports foreign varieties of seed for propagation in California and then re-export. Markets for this cooperative are diverse, including Japan, South Korea, Australia, Canada, most of Western Europe, Chile, Uruguay, and Argentina.

Another award winner is the Pacific Supply Cooperative, Portland, Oreg., which provides both supplies and marketing services to producers in seven States. This cooperative ships numerous products from the Pacific Northwest, including grass seeds, forage grasses, peas, beans, alfalfa pellets, animal protein meals, and malting barley. Nearly 14 percent of its total business is done overseas.

The California Almond Exchange, Sacramento, Calif., also boasts an "E" Award. Unquestionably king of the almond trade, handling more than 70 percent of U.S. production, the Exchange just 15 years ago was only an occasional exporter, to Mexico and Canada. Today, it has a well-established overseas market, which includes Europe, Japan, Australia, and Israel. Among the company's accomplishments is its success in selling in Europe in competition with Mediterranean supplies.

Numerous other cooperatives have had similar successes.

Los Angeles-based Sunkist Growers, Inc., is almost as well known abroad as it is at home. The largest citrus-marketing cooperative in this country, Sunkist is also the trail blazer in the export field. The company's overseas career, which began early in its history, has mushroomed to reach most countries that import fruit and fruit products. Today, Sunkist exports 16 percent of its fresh citrus and 14 percent of its processed citrus. Lemons are the largest single item, with about a million and a half cartons going to Japan each year. Other items include navel oranges and grapefruit.

Rockingham Poultry Marketing Cooperative, Inc., Broadway, Va., is a pioneer in the poultry export business. In the

1950's, when poultry products were still a novelty to many foreigners, Rockingham started promoting its turkeys and broilers abroad. Eventually the company's exports grew to over 10 million pounds and 15-20 percent of total output. Far the largest share of Rockingham's export goes to Europe, although sales are also picking up in Africa and Asia.

One company that has outgrown its name is Cotton Producers' Association, Atlanta, Ga., which in addition to cotton now sells a number of farm products and farm supplies. From a group with an average per capita income of only \$72 a year, Cotton Producers Association has grown into an affluent enterprise. Today, it is the largest U.S. exporter of broilers—nearly 20 percent of production—a shipper of around 150,000 bales of cotton each year, and also an exporter of peanuts and pecans. Virtually all of the countries of Europe, the Middle East, and Asia, as well as some in Africa, buy from the Association.

Record-breaking sales are common among these big cooperatives. In February, the Rice Growers Association of California, Sacramento; Farmers Rice Cooperative, San Francisco; and two independent mills made the largest single sale of rice in this country's history. This was 200,000 tons—\$32 million worth—of rice to South Korean importers. Another historic transaction was the sale by Producers Grain Corporation, Amarillo, Tex., of 200,000 tons of grain sorghum to the Japanese agricultural cooperative ZENKOREN. Records abound in this transaction: The first shipment of the grain sorghum—37,000 tons—was the biggest ever sent to Japan, and ZENKOREN is the world's largest single buyer of U.S. grains. The sale came out of a visit to Japan by the U.S. cooperative's feedgrain promotion team.

These are just a few of the many co-op export success stories that could be told.

Importing and overseas assistance

Not all this trade flow is outward. Quite a few cooperatives are involved in purchasing farm supplies abroad. Agway, Inc., Syracuse, N.Y. (formerly known as GLF), got into foreign trade in 1920 as an importer and did not turn to exporting until later years. Much of its overseas business is with other cooperatives, including ones in the United Kingdom, the Netherlands, Canada, and Costa Rica. Agway now imports 12 types of grass and grain seeds, as well as twine, wire, fishmeal, burlap, fertilizer, molasses, and numerous other products. In turn, it exports dry beans, livestock feed, processed grain (it's the second largest U.S. grain purchaser), and dog and fish food.

Still other cooperatives help to improve the world food situation by sharing their know-how with farmers in developing countries.

One cooperative set up a pilot oilseed crushing cooperative in India and has more under construction. "Miracle" seeds, rejected by many of India's private firms, became part of the pilot cooperative's line. With the help of U.S. technicians, Indian members produced such good results from these seeds that many private firms are now selling them.

Another group of regional U.S. cooperatives has pledged \$1 million plus their know-how—and organized Cooperative Fertilizers International—to help Indian cooperatives build a \$119-million nitrogen fertilizer plant. Others have been at work in Uganda, Peru, Chile, Bolivia, Venezuela, and in several African countries.

—B. H.

Preview: South Africa's Farm Trade

By RONALD E. KAMPE

Foreign Regional Analysis Division, ERS

This is sixth in a series of articles (see September 16 issue) that Foreign Agriculture is publishing on supply-demand studies for farm products in key countries. Each study was conducted under contract with USDA and basic data are from overseas sources. Study trends may be more important than quantitative conclusions, and USDA does not always agree with projections given.

Like many of the countries surveyed, South Africa represents both an important market for some U.S. farm products and a formidable export competitor for others. With a climate ranging from "Mediterranean" in the southwest to "near tropical" in the northeast to "temperate" in the high plains, it is able to produce virtually all the commodities common in the United States and more. As an exporter of feedgrains, South Africa has been an "up and downer" owing largely to its capricious weather conditions, but indications are that it will be better able to cope with these vagaries in coming years. This prospect, plus South Africa's ability to sell fruit in the major Northern Hemisphere markets during the off-season, augers well for the country's future farm trade. And it means that the United States can expect increasingly stiff competition from this major agricultural exporter.

As a competitor, South Africa is already strong in the European markets for all types of fruits and the European and Japanese markets for corn. As an importer, it relies on the United States as the second major source behind the United Kingdom. An average of \$38 million worth of U.S. farm products moved to South Africa each year during 1964-66, including rice, other grains in times of shortages, cotton, and tallow.

General trends now underway in South African farm trade should continue through 1975, according to the study.* This means that the agricultural trade balance will favor South Africa as it has in past years (in 1966 exports were \$452 million and imports \$212 million). And with political and economic stability, South Africa should buy more of the products it normally imports and export more of those it normally sells abroad. Exceptions are found for exports of apricots, lemons, pineapple, and peanuts, which after an initial rise will most likely level off or decline.

Outlook for grains

Further expansion is seen for *corn*—the most important crop in South Africa in terms of value, volume of production and consumption, and land devoted to the crop. While in many years one of the country's major agricultural exports, corn is also an important food in the diet of the South Africans, especially the Bantu, who make up about 80 percent of the population.

Output of corn is expected to climb to 8.6 million short tons in 1970 and 10.4 million in 1975 from the estimated 6.1 million of 1968. These projections assume a 13-percent

increase in corn land and a 71-percent increase in yields on white farms by 1975. No significant gain in productivity is expected on Bantu reserves. In line with the production expansion, corn exports will climb to an estimated 3.8 million short tons by 1975—more than double the 1960-65 average.

Wheat, South Africa's second most important grain but still a deficit crop, will have to be imported in greater quantity in coming years. Imports by 1975 could possibly be 170 percent above the 1960-65 average, according to the study. Production of wheat increased by more than 150 percent during the last decade, but consumption climbed at an equally rapid rate; hence, the inability of South Africa to achieve self-sufficiency. Much of the consumption growth has resulted because of the substitution of wheat for corn among the non-white population.

A similar trend is underway for *rice*. As a result of a growing appetite for rice, per capita consumption of it more than doubled over the past decade, although it is still much smaller than that for wheat or corn. Unlike the other grains, rice is not produced in quantity at home—only 3 percent of local needs is supplied by South Africa—and output has actually declined from 3,500 tons in 1959 to 2,000 in 1964. Output is expected to be static in future years, so that imports will have to expand sharply. The study sees them more than doubling the 1960-65 average by 1970 and more than tripling it by 1975.

Fruit exports to grow

Fruit is fast becoming South Africa's major export. In 1965, the foreign exchange earned from all fruit exceeded \$140 million—up about 70 percent from 5 years earlier—and further gains can be expected over the next 7 years. South Africa has the type of climate that allows the production of a large variety of fruit. Also, its location in the Southern Hemisphere gives it a favorable market advantage, with fresh fruits moving to Europe when prices are at their seasonal high.

Most important segment of this industry is citrus production, which with vast expansion in orchards has increased threefold since World War II. The growing area for citrus is widespread, thus lessening the chances of complete crop failure due to adverse weather. However, destructive winds, drought, and hail make citrus production in South Africa more hazardous than in the United States.

This industry is primarily geared to the export market, where returns are about seven times those received locally. The limited local demand is easily oversupplied with resulting depressed prices. Also, most of the fruit sold abroad commands a high price because of its high quality and the good off-season prices. Shipments of fresh citrus fruits, which make up the bulk of citrus exports, increased from 115,000 tons in 1947-48 to 340,000 in 1965-66.

Processed citrus products in South Africa are also making rapid gains. The amount processed, primarily oranges, increased nearly sevenfold between 1947-48 and 1965-66 to over 100,000 tons. Processed items include mainly juices, canned fruit salads, and marmalades.

Expansion in *oranges*, king among South African citrus

* *Projected Exports and Imports of Selected Agricultural Commodities of South Africa*, by Arthur D. Little, Inc., Cambridge, Massachusetts.

fruits, marked the 1950's. The number of trees more than doubled between 1950 and 1960, leading to production increases. But along with the gains came large orange surpluses and lower prices, which discouraged most producers from further enlargement of their orchards. However, the huge plantings of the 1950's continue to have an effect on production, as many of these trees are still coming into full maturity. As a result, production and exports are expected to grow for at least the next few years. The study sees exports alone climbing 40 percent above the 1960-65 level by 1970 and 71 percent by 1971.

Grapefruit production, although on a smaller scale, expanded even faster during the 1950's than orange output. Between 1950 and 1960, grapefruit orchards grew in size from 267,000 trees to 762,000; plantings have continued to increase during the 1960's but at a slower rate since most of the favorable land has now been planted. In addition to the many trees coming into bearing (only 266,000 of the 762,000 trees were bearing in 1960), yields per tree are expected to increase from the 190 pounds of 1960 to 200 by 1970 and 210 by 1975. This larger supply will supposedly support an export in 1970 that is more than double the 1960-65 average and one in 1975 that is more than triple the average.

Plantings of *lemons*, like those of oranges and grapefruit, increased very rapidly between 1950 and 1960—from 202,000 trees to 811,000. The number of bearing trees also rose during this period from 135,000 to 296,000, and yields more than doubled from 71.8 pounds per tree to 146.1. The number of trees is not expected to increase much more in the near future, and bearing trees are projected at 600,000 for both 1970 and 1975. Yields are anticipated to average 90 pounds per bearing tree in 1970 and 100 by 1975. Lemon exports by 1970 will be more than double the 1960-65 level, but they are not expected to gain between 1970 and 1975.

The deciduous fruit industry, unlike the citrus industry, cans the greater part of its production. In fact, canning is so important that about two-thirds of the peach trees and nine-tenths of the apricot trees are of the canning varieties. About 90 percent of South Africa's canned deciduous fruits are exported.

Peaches are a very popular deciduous fruit in South Africa. In fact, their production nearly doubled between the mid-1950's and mid-1960's from 80,000 short tons to almost 160,000. Yields are low, but South African farmers expect to improve them through more selective plantings on more suitable soils, improved varieties, and increased use of irrigation water. A little more than half the crop is exported, mainly as canned peaches.

Production of peaches is expected to continue to grow significantly during the next few years. As in the past, the export market will be the major outlet, although more will be sold locally also. Projections in the study show peach exports rising to 104,000 and 164,000 short tons, respectively, in 1970 and 1975. This compares with 67,000 shipped out in 1960-65.

Pear production has also almost doubled in the last decade, primarily because of an increase in the number of trees. These gained from 1 million in 1950 to 1.7 million in 1960; 100,000 more are expected to come into full bearing by 1970 and 400,000 more by 1975.

Local consumption—mainly of fresh pears—will take a

large share of the gain, as per capita intake is projected to rise to 4.6 and 5.9 pounds in 1970 and 1975 from the 1.6 pounds for 1960-65. However, exports will climb, too, and those in 1975 will be double the 1960-65 level.

Apricot production appears to fluctuate greatly, although some of the change in data is due to measurement difficulties. In the past, consumption of this product has shown no significant trend, with most of the increase due to population gains. This static situation is expected to continue through 1975. Apricot production, too, will remain relatively stable. Because of blight, many fruit growers have not replaced apricot trees that have passed their bearing age. An increase in yields could offset the decline in trees but not enough to have a significant effect on exports, which will gain only slightly through 1975.

South Africa's *pineapple* industry ranks 10th in the world. During the 1950's production increased significantly, exceeding 165,000 tons by the end of that decade. But then production declined, reaching a low of 107,000 tons in the 1964-65 crop year. This reduction was mainly due to the retirement of marginal land when the price dropped. Area devoted to pineapples is expected to stabilize at about 19,000 acres by 1970. Three-quarters of the crop is processed, primarily for export—a market which will remain relatively stable in the next 7 years. The small foreign market for fresh pineapple should also be static in coming years.

Peanuts, cotton, and mohair

Government emphasis on *peanut* output has brought sharp gains in this crop over the past few decades. Between 1946-47 and 1963-64, peanut output rose 22-fold from 8,300 tons, shelled basis, to 191,000. Gains were also recorded for sunflower. Because sunflowerseed is generally a less expensive source of oil than peanuts, the amount of peanuts used domestically for oil depends on the size of the sunflower crop. And because South Africa fills its oil needs before exports are made, wide fluctuations occur in the yearly export sales of peanuts or peanut oil. Exports of these products usually bring a lower price than domestic sales, and although shipments may rise some in 1970, they are expected to fall off again by 1975.

NET EXPORT AVAILABILITY OF SOUTH AFRICAN
FARM PRODUCTS PROJECTED TO 1970 AND 1975
WITH COMPARISON

Agricultural product	1960-65	1970	1975
	1000	1,000	1,000
	short tons	short tons	short tons
Cereals:			
Corn	1,744	3,287	3,849
Wheat	-209	-397	-566
Rice	-58	-125	-199
Deciduous fruits:			
Peaches	67	104	164
Pears	51	94	102
Apricots	24	26	26
Citrus fruits:			
Oranges	342	478	586
Lemons	7	15	15
Grapefruit	25	60	78
Other:			
Pineapple	98	102	97
Peanuts	97	101	90
Cotton	-24	-49	-69
Mohair	5	8	10

Note: Minus indicates net import requirement.

Cotton consumption in South Africa increased fourfold in the 15 years ending 1965. Production also rose substantially during the period but failed to pace demand with the result that imports—mainly from the United States—rose from 11 million pounds to 50 million.

Most of the cotton produced is an American upland type. South Africa also grows a surplus of irrigated long-staple cotton, but the study sees it curtailing production in the future, switching the irrigated land to higher value crops. Total cotton production is projected at about 38 million pounds by 1970 and 55 million by 1975. The need for imports however, should continue to grow.

South Africa is the world's third largest mohair producer behind the United States and Turkey. Together these three countries produce nearly all of the world's mohair. In the future, production in South Africa should gain but largely as a result of increases in goat numbers. Yields cannot be expanded if quality is to be maintained. It is expected that nearly all of South Africa's production in 1970 and 1975 will be exported in either the raw or processed form.

Record Moroccan Citrus Exports

Citrus fruit exports in 1967-68, totaling approximately 610,000 metric tons, established a new record for Morocco, fourth largest citrus fruit producer in the Mediterranean area. Production increased 6.8 percent to 750,000 metric tons this season. About the same level of production is foreseen for next year's crop, although the exceptional weather during the flowering season could boost output substantially. Export value, US\$89 million, showed an even greater advance over the previous year than the gain in volume—20 percent increase in value compared with 17 percent in volume.

Delayed ripening of clementines resulted in much less of the crop being marketed early when prices were quite high. But sales picked up, and the final total showed an approximate 40-percent gain over last year for this tangerine-type orange. Navel oranges were of good size and quality and sold well. The midseason oranges tended to be small and encountered stiff competition in the West European market; Valencias and other late oranges were harvested earlier than usual and met severe competition from Sanguines and late lavelas from other sources. In both instances, Russian demand eased the marketing problem.

In 1967-68 Common Market countries accounted for 65.7 percent of Morocco's citrus exports and Communist countries, 23.8 percent; the United Kingdom took 6 percent.

The General Citrus Symposium held in Casablanca last October apparently sparked new interest in solving the problems connected with this growing industry. Shortly after this meeting an Interministerial Commission, to study problems concerning citrus production and marketing, and four sub-commissions were set up. The subcommissions were to examine methods of commercialization, interior transport and fruit packing, foreign shipping, and difficulties in the marketing of cull citrus. Some improvement in consolidating the handling of fruit has reportedly been achieved. However, judging from continued agitation on the part of producer organizations, the Commission has not yet made satisfactory progress. Processing facilities are particularly needed in the Rharb area, where fruit growers lost a significant quantity of cull citrus that could not be marketed.

Senegal's Foodgrain Situation

As a result of continued good weather and expanded agricultural inputs, Senegal through the 1967-68 season had been making great strides toward foodgrain self-sufficiency, and it was looking forward to even bigger crops in 1968-69. However, drought has now entered the picture, dimming the outlook for bumper crops of sorghum and millets and for an even average crop of rice unless rains soon start.

During 1967-68 Senegal harvested around 700,000 metric tons of foodgrains (excluding rice). At this level, production was 44 percent above the 487,000 tons produced in 1966-67 and about equal to minimum domestic needs.

Production of sorghum and millets—Senegal's principal food crops—totaled an estimated 610,000 tons in 1967-68, or 187,000 tons above the harvest for 1966-67. Corn production rose, too, from an average of 41,500 tons during the 2 preceding seasons to 46,000. Much of the credit for this expansion can be given to favorable weather and to efforts by SATEC (Société d'Aide Technique et Coopérative) to increase use of fertilizers and fungicides.

Even larger increases in these grains had been in prospect for 1968-69, but outlook is now clouded by the drought. If rains start now and continue in the normal pattern through October, little damage will be registered; otherwise, the crops may suffer setbacks.

Unlike the other leading foodgrains, rice showed a production decrease in 1967. The 1967 harvest is currently estimated at 95,000 metric tons, paddy basis, compared with an earlier forecast of 130,000. Part of the drop occurred in the major rice area, the Casamance, where output was off to 62,000 tons from 82,216 in 1966. The Minister of Rural Development placed the blame for this reduction on above-average rainfall, which allowed too much water to stand in the paddy fields.

In addition, yields were reported sharply off in the SAED (Society for the Development and Exploitation of Delta Lands) project, which accounts for about two-thirds of rice grown in the Fleuve region. It has been reported that this project produced only 15,453 tons from 25,345 acres during 1967 for a yield of 1,344 pounds per acre. This yield is far below the 1966 figure of 2,288 pounds for the Fleuve region as a whole.

Rice production this year, earlier forecast at 115,000-120,000 tons, could be drastically affected by the drought. Lack of rain in the rice areas has reduced water levels—it is believed that the Senegal River at maximum flood stage will be the lowest in 8 years—and has caused delays in rice germination. Currently, both the Fleuve region and the Casamance are expecting crops to be below the low levels of last year.

As for trade, it had been anticipated that the 1968-69 sorghum and millet crops would not only meet domestic needs but would also make possible sizable exports. Corn output, too, was to have increased enough to greatly reduce imports. Now, of course, it is difficult to tell what the situation will be.

With its production down in 1967 and again in 1968, rice continues to be Senegal's largest deficit crop. Imports of this product generally total between 150,000 and 200,000 tons, milled basis, with the largest share coming from Mainland China. For 1968-69, the government is maintaining its import ceiling of 200,000 tons, despite the expected shortfall in production.

Grain and Feed in South America's Far West

Ecuador, Peru, and Chile, three countries along the spine of South America, the Andes, have three different situations in supplies of grains and feeds in 1968. The major factor in the differences is rain—or lack of it. A tie-in influence is differences in planting and harvesting times for crops in different countries (or within the same country) because of the great ranges of latitudes and altitudes.

For example, in Chile most wheat is planted in May or June and harvested in January and February; in coastal Peru wheat is planted between April and July and harvested between September and December. In Peru's mountains wheat is planted between November and March and gathered between May and September. In Ecuador wheat is a mountain crop and is seeded from November through January and reaped in June or July.

Chile

Although the present drought in the central provinces of Chile is the worst ever recorded for the area, the Chilean 1967-68 grain harvest was higher than the 1966-67 harvest. Wheat, barley, oats, rye, and corn counted in the 1967-68 harvest were planted in 1967 and had sufficient moisture to mature well and be harvested before the serious drought started. Although the wheat and corn harvests were down slightly from 1966-67 because of smaller acreages, barley and oats were up 40.4 and 58.8 percent, respectively, from 1966-67 production. The increases were due to larger acreages, which were planted because oats and barley were in short supply following the 1966-67 crop and brought good prices.

Chilean production of wheat in 1967-68 was nearly 1.2 million metric tons, but some imports have already been made and others are expected. Total wheat imports for 1968 in the form of grain are forecast at about 458,000 tons; imports of wheat flour are expected to be about 53,000 tons in terms of wheat equivalent. The United States has already sold 47,700 metric tons of wheat to Chile commercially and 13,700 tons under the Food for Freedom program (P.L. 480); another 106,300 tons will be dispatched to Chile under P.L. 480 during the last half of 1968. Other major suppliers of wheat to Chile are Australia and Argentina, who are expected to provide 135,000 and 144,000 tons, respectively, before the year is over.

Storage (as of August 1, 1968) by government agencies is pegged at 477,400 metric tons and by private millers at 601,100 tons, according to government sources. These figures include both domestic and imported wheat. They do not include farm storage, which in Chile is small.

Corn, Chile's second most important grain crop, is estimated at 347,000 metric tons for 1967-68. The crop will not be sufficient to meet needs because of increased use of corn as an animal feed. In some areas normally available animal feeds are unobtainable due to drought. Commercial purchases of 37,896 metric tons of U.S. corn have already arrived in Chile; in addition, 25,000 tons of P.L. 480 corn were purchased. If severe drought continues, more corn may be needed before the year is over.

Production estimates for 1967-68 for barley are 165,000 metric tons; for oats, 183,000 tons; and for rye, 8,500 tons.

Outlook for the 1968-69 grain crops is less promising with

each week that severe drought persists in Chile's central provinces. Planting of wheat, barley, oats, and rye normally takes place during March through July. About 30 percent or more of Chile's wheat area is seriously affected by drought. At present, the 1968-69 grain crop in Chile is expected to be less than in any recent year.

Peru

Corn is Peru's major grain, and most of the commercial crop is grown on the coast in irrigated fields. It is planted in the coastal area between January and June and harvested between June and November. This year the corn harvest is expected to be only 560,000 metric tons, or less than the estimated 630,000 tons of 1967 and the 580,000 tons of 1966. The low harvest forecast is because of intense drought during the planting and growing seasons in the northern coastal and mountain regions. During the period 1965-67, the corn crop had increased substantially each year because of more and more use of improved hybrid corn seed.

During calendar year 1967 Peru imported only 881 metric tons of corn; 1968 imports are estimated at 70,000 tons. The United States and Argentina will be two of the major suppliers. Despite the volume of imports, stocks of corn are expected to decline to 10,000 tons by the end of the year (20,000 tons were on hand at the end of 1967). Corn prices have increased considerably both because of short supplies and a monetary devaluation that took place in September 1967.

Barley, another important grain crop in Peru, is now forecast at 170,000 metric tons for 1968—or down 6 percent from the estimated 180,000 tons produced in 1967. Barley is raised only in the mountains, and an intensive drought during the first half of 1968 in the northern mountain area probably reduced yields.

Barley imports during 1968 are expected to be 30,000 metric tons compared with 35,000 metric tons imported in 1967. The expected fall in imports is attributed to increased barley import duties and less use of barley and barley products by the local brewing industry, which has been affected by increased taxes on beer.

The forecast for Peru's wheat crop for 1968 has been lowered to 120,000 metric tons because of lack of rain during the planting season in the north. The crop in 1967 was an estimated 140,000 metric tons. Imports for 1968 are now expected to be about 525,000 tons compared with the 482,587 tons shipped in 1967. The chief wheat suppliers will be Argentina, the United States, and Australia. Wheat flour imports will be down, however, because of the opening of a new mill in Iquitos on the Amazon River.

Two grains grown at very high altitudes, quinoa and cañihua, also have smaller harvest forecasts in 1968 (combined, about 17,000 metric tons) than estimated production in 1967 (20,000 tons). Quinoa and cañihua are grown chiefly in the Department of Puno, where severe frosts in January and February injured plants.

Ecuador

As in Peru, corn is the chief grain crop of the country. Estimates of this year's corn crops planted and harvested at

different times in the mountains and on the coast are about 180,000 metric tons—slightly below last year's production of 185,000 tons. Because of drought, production in some southern and coastal areas was only about half of that originally expected; but output in areas further north and west was rather good, and these regions had large acreages.

Corn raised in different areas of Ecuador serves different purposes. Production in tropical and subtropical areas supplies both food and feed industries, and acreage is increasing. In the highlands corn is raised chiefly for human food, and acreage is decreasing as more and more available land is planted in wheat, barley, oats, and potatoes.

Barley is an important highland crop in Ecuador, and estimates for this year's production are about 105,000 metric tons, about the same as last year. Normally, barley is planted in November and December and harvested beginning in July. This crop year plantings (and therefore harvesting) were

delayed because of dry soil conditions; but the main drought did not affect the barley-growing areas.

Wheat, like barley, was planted later than usual this crop year because of lack of soil moisture. During the middle of the growing season rainfall was above average, and due to this and increased use of fertilizers and improved seed, yields are high. Total production is estimated at 65,000 metric tons, or 5,000 tons more than were harvested the last season.

Consumption of wheat in Ecuador for the year 1968-69 is estimated at 120,000 metric tons. The difference between domestic production and consumption will be met by imports. During the 1967-68 crop year, Ecuador imported 53,761 metric tons from the United States and a lesser amount of 7,966 tons from Canada.

As of June 30, 1968, mill stocks in Ecuador were reported at 5,436 tons of domestic wheat and an additional 6,296 tons of imported wheat.

Iran's Farmers Achieving Greater Foodgrain Output

Production of wheat, barley, rice, and pulses in Iran is estimated up for the 1968-69 season because of favorable weather (abundant spring rainfall) and increased crop acreage. Both production and area planted of major food grains has been steadily climbing in the country.

Wheat, the most important grain crop in the country, is estimated to be up 400,000 metric tons this season to reach 4,400,000 tons. Planted area is estimated up from 10,872,400 acres in 1967-68 to about 11,860,000 in 1968-69. Total domestic consumption of wheat for this crop year is forecast at 4,030,000 tons, of which 500,000 will be used as seed. Annual consumption of wheat is increasing in Iran because of population growth. As of July 31, 1968, total wheat stocks in the country were estimated at 430,000 tons.

Because of the large domestic wheat crop this season, Iran is not expected to import supplies during 1968-69. On the contrary, shortage of storage will probably force Iran to export about 400,000 tons of wheat from the harvest. Agreements have already been signed for the export of a total of 250,000 tons.

Barley production is unofficially forecast at 1,270,000 metric tons for 1968-69—an increase of 250,000 tons from the 1967-68 season. The sharp rise is due both to good weather and greater acreage (estimates of 3,657,080 acres in 1967-68 and 4,423,090 in 1968-69). Domestic consumption for 1968-69 is forecast at 1,200,000 tons compared with 1,012,450 tons in 1967-68. Consumption increase is the result of feeding more barley to animals. As of July 31, 1968, barley stocks in Iran were estimated at 84,810 tons.

A rough estimate of barley exports during last crop year, 1967-68, is 14,000 metric tons. Forecasts for exports this season are 15,000 tons.

Rice is more and more in demand by the Iranian population as a foodgrain. Production reflects the demand. The unofficial forecast for the 1968-69 rice harvest is 630,000 metric tons (milled equivalent), or 30,000 more tons than were harvested the previous season. Increased production will result not only from greater acreage and good weather but also from the use of better varieties of seed and improved cultivation. Planted area is predicted to expand from 568,330 acres in 1967-68 to 593,040 in 1968-69.

Rice output is behind rice consumption in Iran, however.

The forecast for 1968-69 domestic consumption is 660,200 tons; 637,000 tons will probably be used for food, and the remainder will be retained for seed. Imports for the season are estimated at about 25,000 tons, of which the United States will probably supply 10,000 tons. Iran imported rice during the previous crop year to keep local consumer rice prices from rising due to scarcity.

Production of *pulses* is unofficially pegged at 150,000 metric tons for 1968-69; in the 1967-68 crop year it was about 140,000 tons. About 70 percent of the pulse crop in Iran is beans and chickpeas. The remainder consists of lentils, mung-beans, broadbeans, and cowpeas. Acreage is estimated about 2½ percent more in 1968-69 than in 1967-68.

—Based on dispatch by C. S. STEPHANIDES
U.S. Agricultural Attaché, Tehran

Sudan's Farm Mechanization Plan

Organized development of mechanized farming in the Sudan is about to begin. The Sudanese Government has established a semiautonomous agency, the Mechanized Farming Corporation, to implement plans and has obtained a loan equivalent to US\$5 million from the World Bank.

The first development site is near Sim Sim, where 140 farms of about 1,000 acres each will be established. The area is now sparsely populated and uncultivated. Farmers at the project will hold cropland on 25-year leases. Roads, water supplies, credit facilities, and technical services essential to efficient mechanized farming will be provided. The chief crops will be sorghum (one of the country's staple foods), sesame for export, and cotton for domestic textile mills. At full operation, each farmer is anticipated to be able to earn US\$3,000 a year. Special attention will be given to soil conservation and improvement.

This pilot project is of great importance to the future economy of the Sudan, which depends heavily on agriculture. At present mechanized farming is expanding rapidly; over 1 million acres have come under mechanized cultivation since 1953. But leases for land are such that farmers tend to exploit soil and deplete its fertility. In the present unorganized system, mechanized farming could degenerate into shifting cultivation as more and more land is exhausted.

Morocco's Fertilizer Program Gets Results

By CHARLES M. CLENDENEN
Assistant U.S. Agricultural Attaché, Rabat

Now in its second year, "Operation Engrais"—"Operation Fertilizer"—is credited with being one of the main reasons for Morocco's expected record-breaking cereal production this year. Because of increased fertilizer use sparked by this program to fertilize the maximum amount of wheat land possible plus favorable weather, a 1967-68 cereals crop of nearly 4.9 million metric tons is probable according to preliminary estimates. Last year's crop totaled 2.6 million tons.

Of the 2.41 million tons of wheat expected—compared with 1.09 million tons in 1966-67—more than 30 percent will come from Operation Engrais fields. Average yields in these fields, which are scattered over the country, are expected to range from 14 bushels per acre in the traditional cultivated areas to 31 bushels per acre in modern cultivated areas. This compares favorably with the U.S. average of about 26 bushels per acre.

Morocco is expected to be self-sufficient in durum wheat and barley this year, and possibly to have exportable surpluses of both. However, it will probably need to import around 300,000 tons of bread wheat.

Wheat in Operation fields this year has consistently been reported in better condition than wheat in nonfertilized fields.

The color has been a richer green, the stands heavier, the heads larger and fuller. This visible demonstration of success and the higher yields are expected to convince many poorer farmers who cannot afford to gamble that a small investment in fertilizer, improved seed, and proper cultural practices will assure them of returns higher than their present marginal production.

The 1967-68 Operation

As reported in *Foreign Agriculture*, April 3, 1967, Operation Engrais began with the 1966-67 crop year. Some 445,000 acres, mostly of wheat but some of barley, were included in the program. In spite of near-drought conditions, wheat yields on fertilized fields were up to 3½ bushels per acre higher than the year before for bread wheats and up to 8 bushels per acre higher for durum wheats.

In 1967-68, the Operation was expanded to 864,500 acres of wheat. Increases are expected to be about double those of last year—about 7 bushels per acre more for bread wheats and 10 to 15 bushels more for durum wheat.

The Operation's second year was started in May 1967 by the Ministry of Agriculture in cooperation with the U.S. Agency for International Development. All agriculturally related segments in the government were involved in planning



Top left, Moroccan farmer prepares the seedbed for wheat on a traditional cultivated farm; farmer is somewhat modern since he has metal moldboard on his plow. Left below, an operator uses a tractor-mounted disk plow to prepare the seedbed for wheat on a farm owned and operated by the government.



Below, Moroccan farmers visit demonstration farm in Tunisia. Local variety of wheat in the plot at left and Mexican semidwarf variety in plot at right.



and implementing the program. The Peace Corps provided 30 extension-oriented volunteers to assist Moroccan extension agents at the provincial level in advising farmers on seedbed preparation, fertilization, weed control, and application of top dressing. The Government of Morocco increased its field staff of advisors in strategic wheat-producing areas. Two years of lean production as a result of drought spurred the enthusiasm of the workers for the program.

Also as a part of this year's program, the government is opening credit facilities in rural areas as rapidly as credit managers can be trained. A total of 57 credit banks will eventually be available for making crop-year loans to small farmers. Such a facility, which has been lacking or inadequate in some areas, can make the difference in a good or poor crop for farmers who do not have sufficient credit to cover purchases of such agricultural inputs as seed, fertilizer, and farm tools.

Morocco's Agricultural Credit Bank, which is providing Operation Engrais credit funds, was financed with 20 percent U.S. Public Law 480 funds and 80 percent Moroccan funds.

Another related Operation Fertilizer activity—research and experimental work with high-yielding, drought-resistant varieties of wheat from other countries—was intensified this year.

Cooperating agencies have introduced 50 such varieties to Morocco for trial. Some 500 tons of seed of the varieties that have already proved superior when grown under Moroccan conditions will be imported for seed multiplication during the 1968-69 crop year.

Plans for 1968-69

In crop year 1968-69 the area under Operation Fertilizer will be between 890,000 acres and 990,000 acres. Later the area will be increased 120,000 acres to 125,000 acres per year until Morocco is self-sufficient in wheat.

The 1968-69 crop plan includes a 12,350-acre project to multiply seed of high-yielding Mexican varieties. Part of the preparation for this project was an observation trip to a comparable project in Tunisia this spring for nine of the more progressive Moroccan wheat farmers and eight representatives of the Extension Service of the Ministry of Agriculture. In Tunisia, the Moroccans saw demonstration plantings of Mexican wheat and gathered other information that could be applied in multiplication of seed of the same or similar varieties in Morocco. The extension representatives will advise other Moroccan farmers in their districts who are interested in producing the new wheat seed.

India Increases Stored Grain; Eyes Next Harvest

The 1967-68 bumper wheat crop (now estimated by the Indian Government at 16.6 million metric tons), plus record production of barley, corn, sorghum, and spiked millets, has helped Indian officials to double stocks of stored grain between the beginning of January and the end of July this year. Another aid to increasing stocks has been continued sizable imports of foodgrains—chiefly from the United States.

The large harvests of wheat and other grains have brought about a marked improvement in the Indian food-supply situation. Wholesale prices for wheat and most pulses have eased after several years of inflationary trend. Average wheat prices were 12 percent lower in June 1968 than during June 1967. The average price of all pulses was 29 percent lower this June than a year ago.

Procurement operations successful

Acquiring wheat and other grains for government stocks and maintaining wheat prices to growers in areas of large production were not without difficulties. During May and June the arrival of very large quantities of wheat for market in Punjab and Haryana brought about shortages of market space, storage, railcars for shipment, and specialized labor. The problems were tackled by the Government of India, acting through the Food Corporation of India, and the affected States. A joint program of procurement was organized, and of total marketed wheat (about 1.6 million tons) about 90 percent was bought by government agencies. Procured grain was put in regular warehouses or in emergency storage in school buildings or under waterproof cloth or plastic sheets before the onset of the monsoon rains. As much as 1.1 million tons, or about 70 percent, was moved out of the two States on either government or private trade accounts.

Because of the success of procurement operations in the Punjab and Haryana, an undue fall in the market price of wheat was prevented. At the same time, the greater availability of grain in the open market at reasonable prices

lessened the pressure on the public distribution system (fair-price and ration shops).

Total Central and State Government stocks of all foodgrains had reached about 4 million tons by the end of July, or were more than 2 million tons greater than on January 1, 1968. The bulk of the increase in Central Government stocks has been in wheat. Domestic wheat deliveries to stocks have been temporarily suspended because of the monsoon season.

Distribution to fair-price shops and roller flour mills from Central Government stocks has continued during procurement activities. Total distribution of all foodgrains from Central stocks during the first 6 months of 1968 was 3.9 million tons (5.0 million tons were released from central stocks during the same period in 1967).

Procurement of domestic foodgrains has not meant discontinuance of grain imports by India. From July 1, 1967, through June 30, 1968, India's wheat imports totaled 6.48 million tons, of which 5.27 million were from the United States. India recently announced that it plans to import 7.5 million tons of foodgrains in calendar year 1968 despite the substantial improvement in its domestic production. Imports of this magnitude are considered necessary to build a sizable buffer stock and still meet the requirements of the public distribution system. A major part of the large 1967-68 harvest is being held by farmers, wholesalers, and merchants to build up reserve stocks after 2 years of severe drought and very poor harvests.

Both Indian officials and farmers are keeping close watch on the prospects for the winter harvest of grains. Although the initial weather for the winter crop was poor (rains began 2 or 3 weeks late in most areas), late July and early August rains were copious and covered most of the country. Prospects now for an average or above-average season seem favorable for agricultural production.

—Based on dispatch by JAMES H. BOULWARE
U.S. Agricultural Attaché, New Delhi

Ecuador Sees Three New Export Prospects

By WILLIAM C. BOWSER
U.S. Agricultural Attaché, Quito

Growing interest in the world export market is leading Ecuador, long dependent on a few key cash-earning crops, to diversify its agricultural base. This is bringing abaca, tea, and mushrooms—three commodities seen to have export potential—to a position of new importance in Ecuador's farm industry.

Within the past few years, these three have advanced from experimental plantings to commercial production. Abaca from Ecuador moved into world trade in March 1966. By December 1967, exports of abaca reached 240 tons valued at \$80,000. Two hundred tons were shipped to Japan and 40 to the United States. Ecuador's first shipment of tea went to the New York market on April 6, 1968. First Ecuadorian exports of canned mushrooms were scheduled to move to both the United States and South America in July 1968. Modest beginnings to be sure, but abaca, tea, and mushrooms are expected to become increasingly important to Ecuador's export position within the near future.

Over the past few years Ecuador has maintained a relatively consistent level of export earnings. An energetic national sales effort for bananas, a guaranteed market for a specified amount of coffee under the International Coffee Agreement, improving cocoa prices, and a sizable U.S. sugar quota have been largely responsible for this satisfactory position. Ecuador also boasts one of South America's most stable currencies. However, Central America is again presenting stiff competition in the banana market, there is a world coffee surplus, and several African West Coast countries are underselling Ecuador's cocoa beans. Therefore, Ecuador's reliance on these few commodities is becoming a growing economic hazard.

Five years of abaca

Abaca is best grown in areas located within 10 degrees of the Equator and 2,000 feet of sea level in a tropical environ-

ment with yearlong rainfall. Like the Philippines, longstanding world supplier of abaca, Ecuador meets these production requirements.

Although exports through December 1967 totaled only 240 tons, export sales are increasing—80 tons were sold in the first 3 months of 1968. Ecuador expects to reach a monthly export of 120 tons of abaca fiber to Peru by 1969, and several U.S. firms are reportedly interested in buying some 5,000 tons of abaca per year from Ecuador. Japan, the United Kingdom, and the United States are traditional large-volume importers of abaca.

Demand from these consumers has been declining during recent years in the face of pressure from the developing world of synthetics. But the industry in Ecuador sees new promise in the growing use of abaca in the manufacture of paper—particularly in the United States. Here use for paper currently absorbs 40 percent of total abaca imports and includes paper products ranging from meat casings to stencils to teabags. The uncertainty of the banana trade's future is also encouraging Ecuador's interest in abaca, since abaca

Counterclockwise from left, tea plantation is carved out of virgin jungle (young tea plants can be seen in foreground); abaca fiber being dried out before baling for export; basket of recently harvested Ecuadorian mushrooms displayed.



grows well in areas now planted to bananas and may prove a more profitable export product.

Experiment in tea and mushrooms

Tea was first brought to Ecuador from Uganda as a potential export crop in 1960 when experimental work was begun in the Oriente on the eastern slopes of the Andes. The experiment was successful and today a 1,000-acre tea plantation is producing good crops with yields estimated at 625 pounds per acre. Yields should reach 1,200 pounds per acre by 1972.

So far, tea plantings in Ecuador have done well. Growing conditions have been near excellent and few insects have attacked the plants. Plant growth is rapid in Ecuador, so bushes are plucked throughout the year and only young shoots are taken. Over the course of a year, each bush may be visited as many as 50 times.

The plantation's tea factory was recently installed to process the leaves; it can rapidly expand from its present 400-ton-annual (dried leaf) capacity to that of 1,000 tons.

Tea was first exported from Ecuador in April 1968, about 3 years after the first commercial plantings. Ecuador's relative proximity to the big U.S. market (the United States ranks second among world tea importers) gives the country a shipping advantage over such traditional suppliers as Ceylon, India, and Indonesia. In 1967 U.S. tea imports rose 10 million pounds over the preceding year to 143 million valued at \$58.1 million. (The United States ranks second only to the United Kingdom as an importer of tea.)

Canadian Agriculture Minister Emphasizes Marketing

Horace A. Olson, Canada's new Minister of Agriculture, has claimed that future improvement of farm income will depend more upon solution of major problems in distribution and marketing than on advances in production technology. In a recent interview, he said that these problems will receive major emphasis during his administration.

While the farmer—the primary producer of foodstuffs—should get a more equitable return for his output, the Minister pointed out, this cannot come solely from higher food costs to the consumer. Costs of processing, packaging, and distribution will have to be taken into consideration. Consumers will have to look at the alternatives offered to them and decide how much they want to pay for processing and packaging and how much they want to pay for nutrients. Along this line, he pointed to recent Parliamentary investigations of gimmicks and other costs involved in food distribution and said that the publicity generated by these investigations had “stopped an unhealthy trend in food sales.”

The Minister hopes to join with the Provinces in a close study of national marketing legislation to determine which commodities require national marketing institutions and which are Provincial matters. On the Canadian Federation of Agriculture's request for a national egg-marketing commission the Minister said, “I don't want to duck behind the Constitution, but the cold, hard fact is that eggs are a Provincial matter.”

At the same time that he was stressing marketing, the Minister warned that farmers will still have to keep abreast of gains in production technology. One case in point here is wheat, Canada's major agricultural product. On this he said, “We have to make sure that we have the right kind of product

With wages for specialized hand labor spiraling in the United States, an American mushroom-producing company recently began looking abroad for a suitable place to grow high-quality mushrooms at a reasonable cost. The Sierra highland regions of Ecuador—especially the area just south of Quito—turned out to have not only a nearly ideal climate, but a good local labor supply and the basic raw materials for the mushroom beds.

Experimental production in a small growing house during 1967 proved successful and in August of that year the American Mushroom Corporation of Ecuador, S.A. (AMCESA) was established. An end-goal of 1.5 million pounds of mushrooms produced annually has been set. Construction of the four main growing houses began immediately and all were ready for commercial mushroom production by mid-1968. The plant's cannery will reportedly be able to process approximately 60,000 pounds of fresh mushrooms per week—more than enough to handle present expected production.

U.S. imports of canned mushrooms, which will include the bulk of Ecuador's export products, have been increasing in recent years. Preliminary 1967 imports totaled 18.1 million pounds valued at \$10.3 million, almost one-third above 1966 imports of 13.9 million valued at \$7.7 million.

With abaca for industrial fiber from the lower western slopes of the Andes, tea as a beverage crop from the Oriente, and mushroom production in the Sierra, Ecuador's efforts to diversify its agriculture in these particular commodities can be expected to aid the economy as a whole.

for sale. While we're certainly not prepared, on evidence, to recommend to farmers to go into wheat for nonbaking purposes, there are some very interesting technological developments here.” He was referring to, among others, the new wheat-rye hybrid, triticale, developed at the University of Manitoba and as yet unlicensed for commercial production.

On trade, the Minister recognizes that the mood on trade policy is becoming increasingly protectionist in eastern Canada, while the West, where wheat exports can make or break many farmers, is generally in favor of free trade. He hopes that Canada will not “. . . have to adopt increasingly protective policies and attitudes, but, depending on what happens, what is the end result of the Kennedy Round, I think we have to do what is responsible and practical in what is, I suppose, self-defense if the other country is to be protectionist.”

Canada's Grain Begins To Move

Canadian farmers began moving their wheat into terminal elevators last week after the country's 60-day grain handlers' strike—and the rainy weather—finally broke. Grain handlers back at work are readying port elevators to receive Canada's huge carryover stocks, which have been sitting in inland elevators blocking storage of the new crop.

Some dry, balmy days in the last week or so much improved chances of saving rain-soaked stands and swaths of grain from further deterioration and sprouting.

—Based on dispatch by RICHARD H. ROBERTS
U.S. Agricultural Attaché, Ottawa

West German Farmers Oppose EEC Plans To Use More Sugar in Feed

U.S. worries about loss of sales in the EEC market are often justified, but occasionally the independent European farmers intercede to soften those worries a bit. Such is the case with denatured sugar, which is subsidized by the Community for use as a livestock feed ingredient. Substitution of the product for corn or grain sorghum could, of course, hurt the United States, which counts the EEC as its largest outlet for those products.

According to scientists' recommendations, the use of sugar for feed could be doubled. But farmers in at least one country—Germany—are not ready to go along with this. Many of them feel that greater use of sugar in feed causes digestive difficulties for their animals—a belief that is expected to help keep German use of sugar in feeds about static over the next few years.

History of product's use

Despite the negative attitudes now holding back its consumption, denatured sugar in past years enjoyed an expanding market. From an insignificant amount in 1960, German use of the product in feeds rose to 280,000 metric tons in 1966-67, then dropped to 250,000 in 1967-68—a level at which it is expected to remain over the next few years.

Of the total feed ingredients, sugar accounts for only about 5 percent in commercial hog feeds, 3 percent in poultry feed, and practically zero in cattle and calf rations. (And its share of total

feed supplies is only 0.5 percent). Scientists say, however, that the sugar percentage could be more than doubled. The unofficial DLG (German Agricultural Society) standards allow for about 10 percent sugar in hog, poultry, and calf rations.

Has a price advantage

Another factor that normally would favor sugar is the price, which is below that for grain, in part because of sugar's lower nutritive value. The c.i.f. price of corn to the feed manufacturer is \$95.38 per ton, while sugar's is \$75.30 to \$77.81, according to the sugar industry (the feed industry says about \$82.83).

Germany's Feed Industry Association reports that by using a mixture of 800 grams of sugar and 200 of soybean meal, the cost of 782 grams of total digestible nutrients is about 8.3 to 8.5 cents, whereas corn supplying the same amount of TDN would cost 8.8 cents. This calculation reportedly does not take into account special effects such as palatability. Furthermore, sugar can be processed easier than grains, as it need not be ground.

(Despite its slight price advantage over grain, sugar as a feed ingredient is no bargain to the EEC taxpayer. For with the EEC's denaturing premium for white sugar totaling \$14.09 per metric ton, taxpayers must pay \$35,140,000 for every 250,000 tons of sugar used in feed. The premium funds are appropriated from the

EEC Agricultural Fund to the various national budgets and then paid to the delivering sugar factory or importer.)

The feed industry and the sugar industry concur that there are no technical difficulties in the processing and handling of sugar and feeds containing sugar. Price fluctuations may have had some limiting effect on inclusion of the product in the preferably stable feed formula, but this is believed to be no longer of great importance. Of more significance seems to be the German farmer's reluctance to use sugar at the maximum recommended level.

Germany must now import most of its sugar for feed, but much of it comes from a fellow EEC member, France. France in 1966-67 supplied 112,881 of the 244,133 tons imported. Sizable quantities also came from Bulgaria, Poland, and other East European countries. In coming years, Germany hopes to supply more of its own denatured sugar and import the rest from France. Between 1965-66 and 1967-68 alone domestic supplies rose from 1,000 tons to an estimated 50,000.

—Based on a dispatch from

PAUL G. MINNEMAN
U.S. Agricultural Attaché, Bonn

Columbian Wheat Shows Sharp Advance

Colombia's wheat production in 1968 is now estimated at 125,000 metric tons, up 56 percent from the preceding year and 20 percent above the 1963-67 production level.

Area sown increased 37 percent to 230,000 acres, largely as a result of the 24-percent increase in the support price for wheat. Yields are expected to reach 20 bushels per acre—up 14 percent from last year and slightly above the average of the last 5 years.

Credit for the increased yields of wheat is given to the more intensive use of high-yielding seed varieties and to good weather conditions.

Consumption of wheat during 1968 is expected to reach 350,000 metric tons, an increase of 27 percent over 1967 consumption. The expected gain is due mainly to an increased level of imports as a result of the government's more liberal attitude to imports of wheat. Total wheat imports during 1968 are estimated at approximately 259,000 metric tons. As of June 30, Colombia had registered 154,088 tons of wheat imports, compared with 96,135 during the same 1967 period.

RELATIVE IMPORTANCE OF SUGAR AS LIVESTOCK FEED IN WEST GERMANY
[grain equivalent]¹

Total supply	1960-61	1963-64	1964-65	1965-66	1966-67	1967-68 estimate
	1,000 metric tons	1,000 metric tons	1,000 metric tons	1,000 metric tons	1,000 metric tons	1,000 metric tons
Grains	9,555	10,630	11,485	11,137	11,470	12,100
Oilmeal	2,665	3,006	3,942	4,708	4,467	4,600
Bran	977	1,032	944	1,034	987	1,000
Fish, meat meal	512	717	854	787	829	850
Sugar	0	4	62	220	280	250
Other ²	608	1,350	1,563	1,902	1,821	1,900
Total concentrates	14,317	16,739	18,850	19,788	19,854	20,700
Beets, potatoes	7,438	7,660	6,577	5,632	6,107	6,800
Forage, roughage	18,677	19,205	16,590	19,176	20,029	20,200
Milk	3,682	3,894	4,009	3,979	3,890	4,000
Total	44,114	47,498	46,026	48,575	49,880	51,700

¹ Grains, sugar=1.0; oilmeal 1.40; bran 0.80; fish, meat meal 1.60.

² Includes pulses, tapioca, molasses, dehydrated alfalfa, beet tops, beet pulp, various other residues, and imported skim milk powder.

Federal Ministry of Agriculture.

CROPS AND MARKETS SHORTS

U.S. Trade in Livestock and Meat Products

U.S. slaughter cattle and wholesale boneless beef prices have remained strong even though U.S. imports of livestock and meat products continued to rise relative to year-earlier levels during the period January-July. Because of the strong domestic demand and increased livestock production in the major importing countries, U.S. livestock exports were below year-earlier levels.

All major categories of meat imports increased, but the largest increase was in imports of beef and veal. Although July imports of boneless beef were 7 percent below the amount recorded for July 1967, all other categories of beef and veal imports increased. Both high U.S. wholesale prices for boneless beef and increased livestock production in the major livestock exporting countries have contributed to this increase in U.S. beef and veal imports. Live cattle imports were also up, reflecting the strong demand for feeder cattle in the United States.

Larger domestic supplies and lower prices in the major im-

porting countries deterred U.S. exports of livestock and meat products. Nevertheless, exports of some commodities increased. Relative to the period January-July 1967, exports of lamb and mutton and sausages increased 26 and 32 percent, respectively. Although exports of total red meats were down for the first 7 months of 1968, July exports were up 25 percent. Also, July exports of the major categories of hides and skins were up relative to 1967.

U.S. IMPORTS OF SELECTED LIVESTOCK PRODUCTS

Commodity	July		Jan.-July	
	1967	1968	1967	1968
Red meats:				
Beef and veal:				
Fresh and frozen:	1,000	1,000	1,000	pounds
Bone-in beef:	pounds	pounds	pounds	1,000
Frozen	364	774	1,890	5,480
Fresh and chilled	442	1,638	1,956	9,949
Boneless beef	84,381	78,066	423,913	471,754
Cuts (prepared)	91	187	700	848
Veal	700	1,588	9,374	12,804
Canned beef:				
Corned	8,585	9,309	42,911	52,320
Other, incl. sausage	1,234	781	7,229	9,061
Prepared & preserved	2,591	12,372	20,166	42,418
Total beef & veal ¹	98,386	104,715	508,137	604,635
Pork:				
Fresh and frozen	4,142	3,957	27,870	31,358
Canned:				
Hams and shoulders ..	17,691	19,193	125,282	134,809
Other	3,057	2,927	25,509	24,339
Cured:				
Hams and shoulders ..	145	754	889	1,446
Other	350	448	2,411	2,576
Sausage	167	164	1,617	1,361
Total pork ¹	25,552	27,443	183,576	195,889
Mutton and goat	2,845	3,945	29,206	42,938
Lamb	890	1,849	5,584	9,536
Other sausage	424	745	3,735	4,273
Other meats, n.s.p.f.	1,334	952	9,216	6,615
Total red meats ¹	129,432	139,649	739,453	863,886
Variety meats	144	225	1,677	2,142
Wool (clean basis):				
Dutiable	6,965	11,292	65,687	85,873
Duty-free	6,906	14,005	39,039	71,601
Total wool ¹	13,870	25,296	104,731	157,472
Hides and skins:	1,000	1,000	1,000	1,000
Cattle	pieces	pieces	pieces	pieces
Cattle	16	62	84	274
Calf	33	34	297	232
Kip	61	29	249	143
Buffalo	31	61	243	312
Sheep and lamb	1,885	3,469	13,647	23,202
Goat and kid	740	352	4,684	3,592
Horse	10	19	117	171
Pig	39	134	757	456
Live cattle ²	Number	Number	Number	Number
	19,086	37,681	355,367	562,078

¹ May not add due to rounding. ² Includes cattle for breeding. Bureau of the Census.

U.S. EXPORTS OF SELECTED LIVESTOCK PRODUCTS

Commodity	July		Jan.-July	
	1967	1968	1967	1968
	1,000	1,000	1,000	1,000
Animal fats:	pounds	pounds	pounds	pounds
Lard	16,396	10,368	105,562	93,983
Tallow and greases:				
Inedible	215,188	166,639	1,369,453	1,286,328
Edible	334	874	11,986	5,242
Meats:				
Beef and veal	2,643	2,187	19,072	15,721
Pork	1,946	4,105	29,422	19,926
Lamb and mutton	81	64	850	1,067
Sausages:				
Canned	91	124	688	858
Except canned	215	253	1,253	1,653
Meat specialties:				
Canned	142	84	1,424	819
Frozen	169	135	1,234	1,044
Other canned	713	538	4,883	4,964
Total red meats ¹ ..	5,993	7,490	58,833	46,047
Variety meats	16,106	13,731	133,594	113,837
Sausage casings:				
Hog	654	403	3,580	3,566
Other natural	696	152	2,428	1,675
Mohair	274	885	5,720	6,155
Hides and skins:				
Cattle parts	2,903	1,193	25,121	18,083
	1,000	1,000	1,000	1,000
	pieces	pieces	pieces	pieces
Cattle	740	818	7,161	6,783
Calf	152	157	1,251	1,333
Kip	19	33	278	197
Sheep and lamb	399	551	2,261	2,110
Horse	6	2	44	44
Goat and kid	60	10	186	130
Live cattle	Number	Number	Number	Number
	2,938	2,544	23,583	20,599

¹ May not add due to rounding. Bureau of the Census.

Weekly Report on Rotterdam Grain Prices

Between September 3 and September 10, 1968, there was very little change in the offer prices in Rotterdam. U.S. Hard Winter decreased 4 cents and U.S. Soft Red Winter increased 1 cent. All others remained unchanged.

U.S. and Argentine corn increased 1 cent. South African corn remained the same.

A listing of the prices follows.

Item	Sept. 10 <i>Dol. per bu.</i>	Sept. 3 <i>Dol. per bu.</i>	A year ago <i>Dol. per bu.</i>
Wheat:			
Canadian No. 2 Manitoba	2.02	2.02	2.02
USSR 121	(1)	(1)	(1)
U.S. No. 2 Dark Northern Spring, 14 percent	1.96	1.96	2.04
U.S. No. 2 Hard Winter, 14 percent	1.91	1.95	1.95
Argentine	(1)	(1)	(1)
U.S. No. 2 Soft Red Winter	1.76	1.75	1.72
Corn:			
U.S. No. 3 Yellow	1.21	1.20	1.44
Argentine Plate	1.44	1.43	1.62
South African White	1.39	1.39	(1)

¹ Not quoted.

Note: All quoted c.i.f. Rotterdam for 30- to 60-day delivery.

Thai Price on Corn to Japan Drops

According to the corn trade agreement between Thailand and Japan for 1968-69 concluded on July 24 (see *Foreign Agriculture*, August 19, 1968), Thailand is scheduled to ship 30,000 metric tons to Japan in September. The price for the September shipment of corn has been set at US\$48.99 per metric ton f.o.b. Bangkok—the lowest since the annual agreement began in the 1962-63 season. The price was derived from the base on the price of U.S. No. 2 Yellow on the Chicago futures market, where the corn price has been declining. Last year corn to Japan in September sold at US\$59.39 per metric ton f.o.b. Bangkok, about 17.5 percent higher than this year's price.

U.S. Exports of Soybeans, Oils, and Meals

Soybean exports in July totaled 17.1 million bushels compared with 16.8 million in July a year ago. The current September-July cumulative total of 249.3 million bushels shows a gain of 3.9 million over last year's 11-month total. Exports to Japan have reached 69.3 million bushels, an increase of 25 percent or 13.9 million. More soybeans were also taken by Spain, Denmark, the Netherlands, and the Republic of China. Exports to Canada and the EEC as a whole, however, were down 2.3 million and 6.7 million bushels, respectively.

Soybean and cottonseed oil exports totaled 62.6 million pounds, 42 percent less than last year. The cumulative total now stands at 835.7 million pounds—down 135.3 million from the previous October-July total. Over 81 percent of the total oil exported was shipped under Public Law 480 programs and less than 19 percent as commercial sales. Commercial sales for the corresponding period last year accounted for 34 percent of the total.

Soybean meal exports in July totaled 249,900 tons—up 13 percent or 28,500 tons over last July's exports. The cur-

rent 10-month total reached 2.51 million tons compared with 2.28 million in the same period a year ago. Exports to the

U.S. EXPORTS OF SOYBEANS, EDIBLE OILS, AND OILCAKES AND MEALS

Item and country of destination	Unit	July		Sept.-July	
		1967 ¹	1968 ¹	1966-67 ¹	1967-68 ¹
SOYBEANS					
Belgium	Mil. bu.	0.3	0.5	8.5	7.7
France	do.	.1	(²)	2.2	.6
Germany, West	do.	1.5	.8	31.4	29.4
Italy	do.	.3	.9	16.9	14.1
Netherlands	do.	2.7	1.0	34.3	34.8
Total EEC	do.	4.9	3.2	93.3	86.6
Japan	do.	4.9	7.2	55.4	69.3
Spain	do.	2.7	2.4	25.1	26.8
Canada	do.	1.7	1.6	22.5	20.2
Denmark	do.	.6	.5	13.8	14.4
China, Taiwan	do.	.4	.7	9.7	10.1
Others	do.	1.6	1.5	25.6	21.9
Total	do.	16.8	17.1	245.4	249.3
Oil equivalent	Mil. lb.	184.6	187.4	2,694.8	2,737.6
Meal equivalent	1,000 tons	395.2	401.0	5,767.7	5,859.2

Soybean: ³		July		Oct.-July	
		1967 ¹	1968 ¹	1966-67 ¹	1967-68 ¹
India	Mil. lb.	44.3	4.7	202.3	184.6
Pakistan	do.	(4)	0	75.1	147.9
Tunisia	do.	1.4	2.6	97.4	96.7
Dominican Republic	do.	.4	2.9	9.1	48.1
Morocco	do.	0	11.7	9.2	41.5
Vietnam, South	do.	0	3.5	22.3	32.4
Israel	do.	0	2.8	11.8	30.4
Brazil	do.	(4)	.1	22.1	20.7
Canada	do.	1.1	1.7	17.9	19.3
Chile	do.	0	10.7	13.9	14.6
Others	do.	55.7	16.8	419.4	153.5
Total	do.	102.9	57.5	900.5	789.7
Cottonseed: ³					
Venezuela	do.	3.6	4.6	27.5	32.5
Canada	do.	.9	.1	7.1	6.5
Japan	do.	0	.1	1.0	1.8
Others	do.	.5	.3	34.9	5.2
Total	do.	5.0	5.1	70.5	46.0
Total oils ..	do.	107.9	62.6	971.0	835.7

CAKES AND MEALS

Soybean:					
Belgium	1,000 tons	40.7	20.9	188.9	221.0
France	do.	34.3	56.5	363.3	415.7
Germany, West	do.	13.7	36.8	393.4	458.8
Italy	do.	34.7	17.9	178.4	170.5
Netherlands	do.	37.0	33.6	355.2	470.8
Total EEC	do.	160.4	165.7	1,479.2	1,736.8
Canada	do.	20.8	21.1	194.8	195.2
United Kingdom	do.	2.2	.7	68.7	76.8
Yugoslavia	do.	8.5	0	134.7	72.8
Denmark	do.	8.5	0	93.7	66.0
Poland	do.	0	17.9	39.8	65.6
Others	do.	21.0	44.5	266.8	293.2
Total	do.	221.4	249.9	2,277.7	2,506.4
Cottonseed	do.	.3	.5	6.8	2.6
Linseed	do.	3.6	4.1	80.5	84.1
Total cakes and meals ⁵	do.	228.5	269.3	2,389.1	⁶ 2,758.3

¹ Preliminary. ² Less than 50,000 bushels. ³ Includes shipments under P.L. 480 as reported by Census. ⁴ Less than 50,000 pounds.

⁵ Includes peanut cake and meal and small quantities of other cakes and meals. ⁶ Subject to revision.

Bureau of the Census.

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ECC of 1.74 million tons represented 69 percent of total exports and a gain of 17 percent over last year. Increased amounts were taken by most major U.S. markets including Canada, the United Kingdom, Poland, Bulgaria, Ireland, Hungary, and the Philippines. Less soybean meal, however, was taken by Yugoslavia, Denmark, Switzerland, Spain, and Czechoslovakia.

An error in the export data classified as "other cakes and meals" for the month of June 1968 has not yet been officially rectified by the Census Bureau. Consequently, total cake and meal exports for the October-July, 1967-68 period are overstated by approximately 110,000 tons.

Cotton Activity Continues Strong

Consumption of raw cotton by the Hong Kong textile industry during the 1967-68 season (August-July) is expected to exceed the record consumption of around 725,000 bales in 1966-67. Mill offtake during the first 5 months of 1967-68 (August-December) totaled 322,000 bales, compared with the 314,000 consumed in the same months a year earlier. The Hong Kong spinning industry, with only 5,000 spindles in 1947, has expanded rapidly and in 1966 had an estimated 738,000 spindles. Most of the cotton yarn produced in Hong Kong is used in its weaving and knitting industry. Moreover, approximately half of the cotton fabrics produced in the weaving and knitting industry are consumed by the domestic garment industry.

Production of cotton textiles in Hong Kong is principally for export. The major importers of Hong Kong's textiles are the United States, the United Kingdom, and Indonesia.

Hong Kong's cotton textile industry is likely to continue its expansion in the current season. Recent reports indicate that the mills are operating in an atmosphere of general optimism. However, competition from manmade fibers is increasing and this will slow the growth in cotton consumption. Reportedly, there are now four mills spinning synthetic fibers.

Hong Kong's imports of raw cotton during the first 10 months of 1967-68 (August-May) totaled 606,000 bales (480 lb. net), down slightly from the 624,000 imported during the same months a year earlier. The major suppliers of raw cotton to Hong Kong during this period with quantities supplied (1966-67 figures in parentheses) were: United States 204,000 bales (154,000); Pakistan 197,000 (106,000);

Tanzania 106,000 (97,000); Mexico 22,000 (26,000); and Brazil 21,000 (103,000). Hong Kong's cotton imports during the 1966-67 season (August-July) reached a record of 728,000 bales.

Mexican Honey Output Returns to Normal

The 1968 Mexican honey crop is forecast at around 73 million pounds, about 17 percent larger than the 1967 crop. The 1967 crop has been revised to 62.7 million pounds, 12 million pounds less than the year before. Grower prices were low in 1967, but marketing conditions are more favorable in 1968.

Honey exports are expected to reach about 61 million pounds in 1968, compared with 52.2 million in 1967. In 1967, the major destination was West Germany with 33.3 million pounds, followed by the United States, 9.0 million; United Kingdom, 4.0 million; and Switzerland, 2.8 million. Other shipments amounted to 3.1 million pounds. Domestic consumption is rather static at an average of 12 million pounds. The total number of colonies is now officially placed at 1,666,000 with an equal proportion between modern and old types.

MEXICO'S PRODUCTION AND EXPORTS OF HONEY

Year	Production Million pounds	Exports Million pounds
1965	51.2	52.1
1966	75.0	61.2
1967	62.7	52.2
1968 (forecast)	73.0	61.0

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